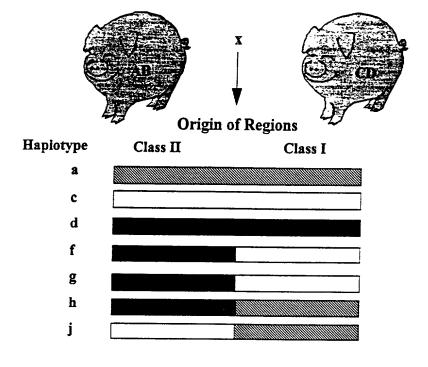
Fig. 1



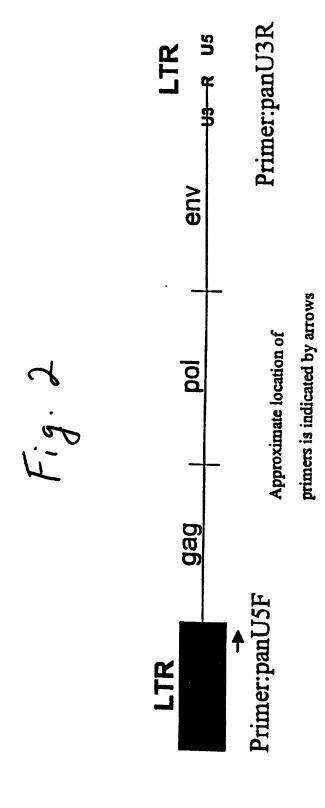


FIGURE 3(a) Sequence of clone 12002-1 ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTCGGG GTGGAAAGCC 50 GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCTTA 100 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG 150 AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC 200 AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT 250 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGCTC 350 AGGACCCCCA AATAATGAAG AATATTGCGG AAATCCTCAG GATTTCTTTT 400 GCAAGCAATG GAGCTGCGTA ACTTCTAATG ATGGGAATTG GAAATGGCCA 450 GTCTCTCAGC AAGACAGAGT AAGTTACTCT TTTGTTAACA ATCCTACCAG 500 TTATAATCAA TTTAATTATG GCCATGGGAG ATGGAAAGAT TGGCAACAGC 550 GGGTACAAAA AGATGTACGA AATAAGCAAA TAAGCTGTCA TTCGTTAGAC 600

ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTCGGG GTGGAAAGCC 50 GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCTTA 100 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG 150 AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC 200 AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT 250 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300 CAGGCCACAC CCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGCCC 350 AGGACCCCCA AATAATGAAG AATATTGTGG AAATCCTCAG GATTTCTTTT 400 GCAAGCAATG GAGCTGCGTA ACTTCTAATG ATGGGAATTG GAAATGGCCA 450 GTCTCTCAGC AAGACAGAGT AAGTTACTCT TTTGTTAACA ATCCTACCAG 500 TTATAAATCAA TTTAATTATG GCCATGGGAG ATGGAAAGAT TGGCAACAGC 550 GGGTACAAAA AGATGTACGA AATAAGCAAA TAAGCTGTCA TTCGTTAGAC 600

ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTCGGG GTGGAAAGCC 50 GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCTTA 100 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG 150 AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC 200 AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT 250 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGCCC 350 AGGACCCCCA AATAATGAAG AATATTGTGG AAATCCTCAG GATTTCTTTT 400 GCAAGCAATG GAGCTGCGTA ACTTCTAATG ATGGGAATTG GAAATGGCCA 450 GTCTCTCAGC AAGACAGAGT AAGTTACTCT TTTGTTAACA ATCCTACCAG 500 TTATAATCAA TTTAATTATG GCCATGGGAG ATGGAAAGAT

FIGURE 3(d) Sequence of clone 12002-4 ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTCGGG GTGGAAAGCC 50 GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCTTA 100 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GAACAGTCCG 150 AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC 200 AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT 250 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGCCC 350 AGGACCCCCA AATAATGAAG AATATTGTGG AAATCCTCAG GATTTCTTTT 400 GCAAGCAATG GAGCTGCGTA ACTTCTAATG ATGGGAATTG GAAATGGCCA 450 GTCTCTCAGC AAGACAGAGT AAGTTACTCT TTTGTTAACA ATCCTACCAG 500 TTATAATCAA TTTAATTATG GCCATGGGAG ATGGAAAGAT TGGCAACAGC 550 GGGTACAAAA AGATGTACGA AATAAGCAAA TAAGCTGTCA TTCGTTAGAC 600 FIGURE 3(e) Sequence of clone 12002-5 ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTCGGG GTGGAAAGCC 50 GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCTTA 100 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GAACAGTCCG 150

AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC 200
AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT 250
GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300
CAGGCCACAC CCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGCCC 350
AGGACCCCA AATAATGAAG AATATTGTGG AAATCCTCAG GATTTCTTTT 400
GCAAGCAATG GAGCTGCGTA ACTTCTAATG ATGGGAATTG GAAATGGCCA 450
GTCTCTCAGC AAGACAGAGT AAGTTACTCT TTTGTTAACA ATCCTACCAG 500
TTATAATCAA TTTAATTATG GCCATGGGAG ATGGAAAGAT TGGCAACAGC 550
GGGTACAAAA AGATGTACGA AATAAGCAAA TAAGCTGTCA TTCGTTAGA

FIGURE 3(f) Sequence of clone 12002-6

ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTCGGG GTGGAAAGCC 50
GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCTTA 100
CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GAACAGTCCG 150
AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC 200
AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT 250
GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300
CAGGCCACAC CCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGCCC 350
AGGACCCCA AATAATGAAG AATATTGTGG AAATCCTCAG GATTTCTTTT 400
GCAAGCAATG GAGCTGCGTA ACTTCTAATG ATGGGAATTG GAAATGGCCA 450
GTCTCTCAGC AAGACAGAGT AAGTTACTCT TTTGTTAACA ATCCTACCAG 500
TTATAATCAA TTTAATTATG GCCATGGGAG ATGGAAAGAT TGGCAACAGC 550
GGGTACAAAA AGATGTACGA AATAAGCAAA TAAGCTGTCA TTCGTTAGA

FIGURE 3(g) Sequence of clone 12002-7

ATGCATCCCA	CGTTAAGCCG	GCGCCACCTC	CCGATTCGGG	GTGGAAAGCC	50
				TGGTTCCTTA	100
				GAACAGTCCG	150
AACTCCCATA	AACCCTTATC	TCTCACCTGG	TTACTTACTG	ACTCCGGTAC	200
	ATTAACAGCA				250
GGCCTGAATT	ATATGTCTGC	CTTCGATCAG	TAATCCCTGG	TCTCAATGAC	300
	CCCCCGATGT				350
AGGACCCCCA	AATAATGAAG	AATATTGTGG	AAATCCTCAG	GATTTCTTTT	400
	GAGCTGCGTA			GAAATGGCCA	450
	AAGACAGAGT				500
	TTTAATTATG				550
GGGTACAAAA	AGATGTACGA	AATAAGCAAA	TAAGCTGTCA	TTCGTTAGAC	600

FIGURE 4 Comparison of sequences of clones 12002-1 though 12002-7 1 ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTCGGG GTGGAAAGCC 12002-1.DNA 50 12002-2.DNA 1 ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTCGGG GTGGAAAGCC 50 12002-3.DNA 1 ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTCGGG GTGGAAAGCC 50 12002-4.DNA 1 ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTCGGG GTGGAAAGCC 12002-5.DNA 1 ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTCGGG GTGGAAAGCC 50 12002-6.DNA 1 ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTCGGG GTGGAAAGCC 50 12002-7.DNA 1 ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTCGGG GTGGAAAGCC 50 12002-1.DNA 51 GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCTTA 100 51 GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCTTA 12002-2.DNA 100 12002-3.DNA 51 GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCTTA 100 12002-4.DNA 51 GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCTTA 100 12002-5.DNA 51 GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCTTA 100 12002-6.DNA 51 GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCTTA 100 12002-7.DNA 51 GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCTTA 100 12002-1.DNA 101 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG 150 12002-2.DNA 101 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG 150 12002-3.DNA 101 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG 150 101 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GAACAGTCCG 12002-4.DNA 150 12002-5.DNA 101 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GAACAGTCCG 150 12002-6.DNA 101 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GAACAGTCCG 150 12002-7.DNA 101 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GAACAGTCCG 150 , E 12002-1.DNA 151 AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC 12002-2.DNA 151 AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC 200 12002-3.DNA 151 AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC M 200 12002-4.DNA 151 AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC 200 12002-5.DNA 151 AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC 200 12002-6.DNA 151 AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC क्र**ड**ींन 200 12002-7.DNA 151 AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC n 200 12002-1.DNA 201 AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT 250 12002-2.DNA 201 AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT 12 250 12002-3.DNA 201 AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT 250 12002-4.DNA 201 AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT 250 201 AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT 12002-5.DNA 250 12002-6.DNA 201 AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT 1 250 12002-7.DNA 201 AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT 250 12002-1.DNA 251 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300 12002-2.DNA 251 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300 12002-3.DNA 251 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300 12002-4.DNA 251 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300 12002-5.DNA 251 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300 12002-6.DNA 251 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300 12002-7.DNA 251 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300 12002-1.DNA 301 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGCTC 350 12002-2.DNA 301 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGCCC 350 12002-3.DNA 301 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGCCC 350 12002-4.DNA 301 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGCCC 350 12002-5.DNA 301 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGCCC 350 12002-6.DNA 301 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGCCC 350 12002-7.DNA 301 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGCCC 350 12002-1.DNA 351 AGGACCCCCA AATAATGAAG AATATTGCGG AAATCCTCAG GATTTCTTTT 400 12002-2.DNA 351 AGGACCCCCA AATAATGAAG AATATTGTGG AAATCCTCAG GATTTCTTTT 400 12002-3.DNA 351 AGGACCCCCA AATAATGAAG AATATTGTGG AAATCCTCAG GATTTCTTTT 400 12002-4.DNA 351 AGGACCCCCA AATAATGAAG AATATTGTGG AAATCCTCAG GATTTCTTTT 400 12002-5.DNA 351 AGGACCCCCA AATAATGAAG AATATTGTGG AAATCCTCAG GATTTCTTTT

351 AGGACCCCCA AATAATGAAG AATATTGTGG AAATCCTCAG GATTTCTTTT

351 AGGACCCCCA AATAATGAAG AATATTGTGG AAATCCTCAG GATTTCTTTT

12002-6.DNA

12002-7.DNA

400

400

400

Figure 4 (cont'd)

12002-1.DNA	401	GCAAGCAATG	GAGCTGCGTA	ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
12002-2.DNA	401	GCAAGCAATG	GAGCTGCGTA	ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
12002-3.DNA	401	GCAAGCAATG	GAGCTGCGTA	ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
12002-4.DNA	401	GCAAGCAATG	GAGCTGCGTA	ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
12002-5.DNA	401	GCAAGCAATG	GAGCTGCGTA	ACTICTAATG	ATGGGAATTG	GAAATGGCCA	450
12002-6.DNA	401	GCAAGCAATG	GAGCTGCGTA	ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
12002-7.DNA	401	GCAAGCAATG	GAGCTGCGTA	ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
12002-1.DNA	451	GTCTCTCAGC	AAGACAGAGT	AAGTTACTCT	TTTGTTAACA	ATCCTACCAG	500
12002-2.DNA	451	GTCTCTCAGC	AAGACAGAGT	AAGTTACTCT	TTTGTTAACA	ATCCTACCAG	500
12002-3.DNA	451	GTCTCTCAGC	AAGACAGAGT	AAGTTACTCT	TTTGTTAACA	ATCCTACCAG	500
12002-4.DNA	451	GTCTCTCAGC	AAGACAGAGT	AAGTTACTCT	TTTGTTAACA	ATCCTACCAG	500
12002-5.DNA	451	GTCTCTCAGC	AAGACAGAGT	AAGTTACTCT	TTTGTTAACA	ATCCTACCAG	500
12002-6.DNA	451	GTCTCTCAGC	AAGACAGAGT	AAGTTACTCT	TTTGTTAACA	ATCCTACCAG	500
12002-7.DNA	451	GTCTCTCAGC	AAGACAGAGT	AAGTTACTCT	TTTGTTAACA	ATCCTACCAG	500
12002-1.DNA	501	TTATAATCAA	TTTAATTATG	GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
12002-2.DNA	501	TTATAATCAA	TTTAATTATG	GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
12002-3.DNA	501	TTATAATCAA	TTTAATTATG	GCCATGGGAG	ATGGAAAGAT		550
12002-4.DNA	501	TTATAATCAA	TTTAATTATG	GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
12002-5.DNA	501	TTATAATCAA	TTTAATTATG	GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
12002-6.DNA	501	TTATAATCAA	TTTAATTATG	GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
12002-7.DNA	501	TTATAATCAA	TTTAATTATG	GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
12002-1.DNA	551	GGGTACAAAA	AGATGTACGA	AATAAGCAAA	TAAGCTGTCA	TTCGTTAGAC	600
12002-2.DNA	551	GGGTACAAAA	AGATGTACGA	AATAAGCAAA	TAAGCTGTCA	TTCGTTAGAC	600
12002-3.DNA	551						600
12002-4.DNA	551	GGGTACAAAA	AGATGTACGA	AATAAGCAAA	TAAGCTGTCA	TTCGTTAGAC	600
12002-5.DNA		GGGTACAAAA					600
12002-6.DNA	551	GGGTACAAAA	AGATGTACGA	AATAAGCAAA	TAAGCTGTCA	TTCGTTAGA-	600
12002-7.DNA	551	GGGTACAAAA	AGATGTACGA	AATAAGCAAA	TAAGCTGTCA	TTCGTTAGAC	600

FIGURE 5(a) Sequence from 11619-1

ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTCGGG GTGGAAAGCC 50 GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCTTA 100 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG 150 AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC 200 AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT 250 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300 CAGGCCACAC CCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGCCC 350 AGGACCCCCA AATAATGAAG AATATTGTGG AAATCCTCAG GATTTCTTTT 400 GCAAGCAATG GAGCTGCGTA ACTTCTAATG ATGGGAATTG GAAATGGCCA 450 GTCTCTCAGC AAGACAGAGT AAGTTACTCT TTTGTTAACA ATCCTACCAG 500 TTATAATCAA TTTAATTATG GCCATGGGAG ATGGAAAGAT TGGCAACAGC 550 GGGTACAAAA AGATGTACGA AATAAGCAAA TAAGCTGTCA TTCGTTAGA

FIGURE 5(b) Sequence from 11619-2

ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTCGGG GTGGAAAGCC 50 GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCTTA 100 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG 150 AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC 200 AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT 250 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG CCTCAATGAC 300 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGCCC 350 AGGACCCCCA AATAATGAAG AATATTGTGG AAATCCTCAG GATTTCTTTT 400 GCAAGCAATG GAGCTGCGTA ACTTCTAATG ATGGGAATTG GAAATGGCCA 450 GTCTCTCAGC AAGACAGAGT AAGTTACTCT TTTGTTAACA ATCCTACCAG 500 TTATAATCAA TTTAATTATG GCCATGGGAG ATGGAAAGAT TGGCAACAGC 550 GGGTACAAAA AGATGTACGA AATAAGCAAA TAAGCTGTCA TTCGTTAGA

FIGURE 5(c) Sequence from 11619-3

ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTCGGG GTGGAAAGCC 50 GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCTTA 100 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG 150 AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC 200 AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT 250 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGCCC 350 AGGACCCCCA AATAATGAAG AATATTGTGG AAATCCTCAG GATTTCTTTT 400 GCAAGCAATG GAGCTGCGTA ACTTCTAATG ATGGGAATTG GAAATGGCCA 450 GTCTCTCAGC AAGACAGAGT AAGTTACTCT TTTGTTAACA ATCCTACCAG 500 TTATAATCAA TTTAATTATG GCCATGGGAG ATGGAAAGAT TGGCAACAGC 550 GGGTACAAAA AGATGTACGA AATAAGCAAA TAAGCTGTCA TTCGTTAGA

FIGURE 5(d) Sequence from 11619-4

GACAGCCCGA	ACTCCCATAA	ACCCTCATCT	CTCACCTGGT	TACTTACTGA	50
CTCCGGTACA	${\tt GGTATTAATA}$	TTAACAGCAC	TCAAGGGGAG	GCTCCCTTGG	100
GGACCTGGTG	GCCTGAATTA	TATGTCTGCC	TTCGATCAGT	AATCCCTGGT	150
CTCAATGACC	AGGCCACACC	CCCCGATGTA	CTCCGTGCTT	ACGGGTTTTA	200
CGTTTGCCCA	GGACCCCCAA	ATAATGAAGA	ATATTGTGGA	AATCCTCAGG	250
ATTTCTTTTG	CAAGCAATGG	${\tt AGCTGCGTAA}$	CTTCTAATGA	TGGGAATTGG	300
AAATGGCCAG	TCTCTCAGCA	AGACAGAGTA	AGTTACTCTT	TTGTTAACAA	350
TCCTACCTAT	AATAATCAAT	TTAATTATGG	CCATGGGAGA	TGGAAAGATT	400
GGCAACAGCG	GGTACAAAAA	GATGTACGAA	ATAAGCAAAT	AAGCTGTCAT	450
TCGTTAGA					

FIGURE 5(e) Sequence from 11619-5

TTAATGGTAA	ACGCCTTGTG	GACAGCCCGA	ACTCCCATAA	ACCCTTATCT	50
CTCACCTGGT	TACTTACTGA	CTCCGGTACA	GGTATTAATA	TTAACAGCAC	100
TCAAGGGGAG	GCTCCCTTGG	GGACCTGGTG	GCCTGAATTA	TATGTCTGCC	150
TTCGATCAGT	AATCCCTGGT	CTCAATGACC	AGGCCACACC	CCCCGATGTA	200
CTCCGTGCTT	ACGGGTTTTA	CGTTTGCCCA	GGACCCCCAA	ATAATGAAGA	250
ATATTGTGGA	AATCCTCAGG	ATTTCTTTTG	CAGGCAATGG	AGCTGCGTAA	300
CTTCTAATGA	TGGAAATTGG	AAATGGCCAG	TCTCTCAGCA	AGACAGAGTA	350
AGTTACTCTT	TTGTTAACAA	TCCTACCAGT	TATAATCAAT	TTAATTATGG	400
CCATGGGAGA	TGGAAAGATT	GGCAACAGCG	GGTACAAAAA	GATGTACGAA	450
ATAAGCAAAT	AAGCTGTCAT	TCGTTAGA			

FIGURE 5(f) Sequence from 11619-6

${\tt TTAATGGTAA}$	ACGCCTTGTG	GACAGCCCGA	ACTCCCATAA	ACCCTTATCT	50
CTCACCTGGT	TACTTACTGA	CTCCGGTACA	GGTATTAATA	TTAACAGCAC	100
TCAAGGGGAG	GCTCCCTTGG	GGACCTGGTG	GCCTGAATTA	TATGTCTGCC	150
TTCGATCAGT	AATCCCTGGT	CTCAATGACC	AGGCCACACC	CCCCGATGTA	200
CTCCGTGCTT	ACGGGTTTTA	CGTTTGCCCA	GGACCCCCAA	ATAATGAAGA	250
ATATTGTGGA	AATCCTCAGG	ATTTCTTTTG	CAAGCAATGG	AGCTGCGTAA	300
CTTCTAATGA	TGGGAATTGG	AAATGGCCAG	TCTCTCAGCA	AGACAGAGTA	350
AGTTACTCTT	TTGTTAACAA	TCCTACCAGT	TATAATCAAT	TTAATTATGG	400
CCATGGGAGA	TGGAAAGATT	GGCAACAGCG	GGTACAAAAA	GATGTACGAA	450
ATAAGCAAAT	AAGCTGTCAT	TCGTTAGA			

FIGURE 5(g) Sequence from 11619-7

GACAGCCCGA	ACTCCCATAA	ACCCTTATCT	CTCACCTGGT	TACTTACTGA	50
CTCCGGTACA	GGTATTAATA	TTAACAGCAC	TCAAGGGGAG	GCTCCCTTGG	100
				AATCCCTGGT	
CTCAATGACC	AGGCCACACC	CCCCGATGTA	CTCCGTGCTT	ACGGGTTTTA	200
CGTTTGCCCA	GGACCCCCAA	ATAATGAAGA	ATATTGTGGA	AATCCTCAGG	250
ATTTCTTTTG	CAAGCAATGG	AGCTGCGTAA	CTTCTAATGA	TGGGAATTGG	300
AAATGGCCAG	TCTCTCAGCA	AGACAGAGTA	AGTTACTCTT	TTGTTAACAA	350
TCCTACCAGT	TATAATCAAT	TTAATTATGG	CCATGGGAGA	TGGAAAGATT	400
GGCAACAGCG	GGTACAAAAA	GATGTACGAA	ATAAGCAAAT	AAGCTGTCAT	450
TCGTTAGA					

FIGURE 5(h) Sequence from 11619-8

_						
					ACCCTTATCT	
					TTAACAGCAC	
7	CAAGAGGAG	GCTCCCTTGG	GGACCTGGTG	GCCTGAATTA	TATGTCTGCC	150
7	TCGATCAGT	AATCCCTGGT	CTCAATGACC	AGGCCACACC	CCCCGATGTA	200
C	TCCGTGCTT	ACGGGTTTTA	CGTTTGCCCA	GGACCCCCAA	ATAATGAAGA	250
P	TATTGTGGA	AATCCTCAGG	ATTTCTTTTG	CAAGCAATGG	AGCTGCGTAA	300
C	TTCTAATGA	TGGGAATTGG	AAATGGCCAG	TCTCTCAGCA	AGACAGAGTA	350
A	GTTACTCTT	TTGTTAACAA	TCCTACCAGT	TATAATCAAT	TTAATTATGG	400
C	CATGGGAGA	TGGAAAGATT	GGCAACAGCG	GGTACAAAAA	GATGTACGAA	450
		AAGCTGTCAT				

	FIGURE 5(i)	Sequence from	11619-9			
100	TTAATGGTAT	GCGCCTTGTG	GACTGCCCGA	ACTCCCATAA	ACCCTTATCT	50
= n\$n					TTAACATCAC	
					TATGTCTGCC	
					CCCCGATGTA	
	CTCCGTGCTT	ACGGGTTTTA	CGTTTGCCCA	GGACCCCCAA	ATAATGAAGA	250
					AGCTGCGTAA	
					AGACAGAGTA	350
		TTGTTAACAA				400
				GGTACAAAAA	GATGTACGAA	450
	ATAAGCAAAT	AAGCTGTCAT	TCGTTAGA			

FIGURE 6 Comparison of the sequences derived from pig 11619

	11619-1.DNA	1 ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTCGGG GTGGAAAGCC	50
	11619-2.DNA	1 ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTCGGG GTGGAAAGCC	50
	11619-3.DNA	1 ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTCGGG GTGGAAAGCC	50
	11619-4.DNA	1	50
	11619-5.DNA	1	50
	11619-6.DNA	1	50
	11619-7.DNA	1	
	11619-8.DNA	1	50
	11619-9.DNA	1	50
			50
	11619-1.DNA	51 GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCTTA	
	11619-2.DNA	51 GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCTTA	100
	11619-3.DNA	51 GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCTTA	100
	11619-4.DNA	51	100
	11619-5.DNA	51	100
	11619-6.DNA	51	100
	11619-7.DNA	51	100
	11619-8.DNA	51	100
	11619-9.DNA	51	100
		J1	100
	11619-1.DNA	101 CECOCOCC 3 T. 3 3 CECOCOCC - COCC	
	11619-2.DNA	101 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG	150
	11619-3.DNA	101 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG	150
	11619-4.DNA	101 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG	150
: 5 1855		101	150
	11619-5.DNA	101	150
	11619-6.DNA	101TTAATGGTA AACGCCTTCT CCAGAGGGG	150
4, 3	11619-7.DNA	101	150
- 125 - 125	11619-8.DNA	101TTAATGGTA AACGCCTTGT CGAGAGGGG	150
ŢŢ.	11619-9.DNA	101TTAATGGTA TGCGCCTTGT GGACTGCCCG	150
	14444 4		130
	11619-1.DNA	151 AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC	200
lu alb	11619-2.DNA	151 AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCCCTAC	200
LT.	11619-3.DNA	151 AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCCGTAC	200
12 522	11619-4.DNA	151 AACTCCCATA AACCCTCATC TCTCACCTGG TTACTTACTG ACTCCCCTAC	200
12 1011	11619-5.DNA	151 AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC	200
損	11619-6.DNA	151 AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCCCTAC	200
	11619-7.DNA	151 AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCCCTAC	
	11619-8.DNA	151 AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCCCTAC	200
225	11619-9.DNA	151 AACTCCCATA AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC	200
e alla			200
	11619-1.DNA	201 AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT	250
· E	11619-2.DNA	201 AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTCCT	250
	11619-3.DNA	201 AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT	250
	11619-4.DNA	201 AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT	250
	11619-5.DNA	201 AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT	250
	11619-6.DNA	201 AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT	250
	11619-7.DNA	201 AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT	250
	11619-8.DNA	201 AGGTATTAAT ATTAACAGCA CTCAAGAGGA GGCTCCCTTG GGGACCTGGT	250
	11619-9.DNA	201 AGGTATTAAT ATTAACATCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT	250
		THE THE THE THE TENENCE CICARGOGGA GGCTCCCTTG GGGACCTGGT	250
	11619-1.DNA	251 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC	
	11619-2.DNA	251 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC	300
	11619-3.DNA	251 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG CCTCAATGAC	300
	11619-4.DNA	251 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC	300
	11619-5.DNA	251 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC	300
	11619-6.DNA	251 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC	300
	11619-7.DNA	251 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC	300
	11619-8.DNA	251 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC	300
	11619-9.DNA	251 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC	300
	IIOI9-J.DNA	251 GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC	300
	11619-1.DNA		-
		301 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGCCC	350
	11619-2.DNA	301 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGCGTTTTT ACCTTTTCGG	350
	11619-3.DNA	301 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACCGCGTTTT ACCTTTTGGGG	350
	11619-4.DNA	301 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTCCCC	350
	11619-5.DNA	301 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACCURREGGG	350
	11619-6.DNA	301 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTTT ACGTTTTCGGG	350
	11619-7.DNA	301 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACCGCGTTTT ACCTTTTCACG	350 350
	11619-8.DNA	301 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGCGTTTT ACGTTTCCGG	350
	11619-9.DNA	301 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGCCC	350
			220

Figure 6 (cont'd)

	11619-1.DNA	351	AGGACCCCCA	AATAATGAAG	AATATTGTGG	AAATCCTCAG	GATTTCTTTT	400
	11619-2.DNA	351	AGGACCCCCA	AATAATGAAG	AATATTGTGG	AAATCCTCAG	GATTTCTTTT	400
	11619-3.DNA	351	AGGACCCCCA	AATAATGAAG	AATATTGTGG	AAATCCTCAG	GATTTCTTTT	400
	11619-4.DNA	351	AGGACCCCCA	AATAATGAAG	AATATTGTGG	AAATCCTCAG	GATTTCTTTT	400
	11619-5.DNA	351	AGGACCCCCA	AATAATGAAG	AATATTGTGG	AAATCCTCAG	GATTTCTTTT	400
	11619-6.DNA	351	AGGACCCCCA	AATAATGAAG	AATATTGTGG	AAATCCTCAG	GATTTCTTTT	400
	11619-7.DNA	351	AGGACCCCCA	AATAATGAAG	AATATTGTGG	AAATCCTCAG	GATTTCTTTT	400
-	11619-8.DNA	351	AGGACCCCCA	AATAATGAAG	AATATTGTGG	AAATCCTCAG	GATTTCTTTT	400
	11619-9.DNA	351	AGGACCCCCA	AATAATGAAG	AATATTGTGG	AAATCCTCAG	GATTTCTTTT	400
	11619-1.DNA	401	GCAAGCAATG	GAGCTGCGTA	ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
	11619-2.DNA	401	GCAAGCAATG	GAGCTGCGTA	ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
	11619-3.DNA	401	GCAAGCAATG	GAGCTGCGTA	ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
	11619-4.DNA	401	GCAAGCAATG	GAGCTGCGTA	ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
	11619-5.DNA	401	GCAGGCAATG	GAGCTGCGTA	ACTTCTAATG	ATGGAAATTG	GAAATGGCCA	450
	11619-6.DNA	401	GCAAGCAATG	GAGCTGCGTA	ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
	11619-7.DNA	401	GCAAGCAATG	GAGCTGCGTA	ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
	11619-8.DNA	401	GCAAGCAATG	GAGCTGCGTA	ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
	11619-9.DNA	401	GCAAGCAATG	GAGCTGCGTA	ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
	11619-1.DNA	451	GTCTCTCAGC	AAGACAGAGT	AAGTTACTCT	TTTGTTAACA	ATCCTACCAG	500
	11619-2.DNA		GTCTCTCAGC					500
	11619-3.DNA	451	GTCTCTCAGC	AAGACAGAGT	AAGTTACTCT	TTTGTTAACA	ATCCTACCAG	500
'n Hee'	11619-4.DNA	451	GTCTCTCAGC	AAGACAGAGT	AAGTTACTCT	TTTGTTAACA	ATCCTACCTA	500
- 100 mg	11619-5.DNA	451	GTCTCTCAGC	AAGACAGAGT	AAGTTACTCT	TTTGTTAACA	ATCCTACCAG	500
E E	11619-6.DNA	451	GTCTCTCAGC	AAGACAGAGT	AAGTTACTCT	TTTGTTAACA	ATCCTACCAG	500
14. E	11619-7.DNA	451	GTCTCTCAGC	AAGACAGAGT	AAGTTACTCT	TTTGTTAACA	ATCCTACCAG	500
, u gang	11619-8.DNA	451	GTCTCTCAGC	AAGACAGAGT	AAGTTACTCT	TTTGTTAACA	ATCCTACCAG	500
	11619-9.DNA	451	GTCTCTCAGC	AAGACAGAGT	AAGTTACTCT	TTTGTTAACA	ATCCTACCAG	500
M								
i salla	11619-1.DNA	501	TTATAATCAA	TTTAATTATG	GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
i min	11619-2.DNA	501	TTATAATCAA	TTTAATTATG	GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
	11619-3.DNA	501	TTATAATCAA	TTTAATTATG	GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
is bia	11619-4.DNA		TAATAATCAA					550
	11619-5.DNA	501	TTATAATCAA	TTTAATTATG	GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
(E	11619-6.DNA	501	TTATAATCAA	TTTAATTATG	GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
1 400	11619-7.DNA		TTATAATCAA					550
-4	11619-8.DNA		TTATAATCAA					550
	11619-9.DNA		TTATAATCAA					550
i alla								
ı,D	11619~1.DNA	551	GGGTACAAAA	AGATGTACGA	AATAAGCAAA	TAAGCTGTCA	TTCGTTAGA.	600
	11619-2.DNA	551	GGGTACAAAA	AGATGTACGA	AATAAGCAAA	TAAGCTGTCA	TTCGTTAGA.	600
	11619-3.DNA		GGGTACAAAA					600
1 300	11619-4.DNA	551	GGGTACAAAA	AGATGTACGA	AATAAGCAAA	TAAGCTGTCA	TTCGTTAGA.	600
	11619-5.DNA		GGGTACAAAA					600
	11619-6.DNA		GGGTACAAAA					600
	11619-7 DNA		GGGTACAAAA					600
	11619-8.DNA	551	GGGTACAAAA	AGATGTACGA	AATAAGCAAA	TAAGCTGTCA	TTCGTTAGA.	600
	11619-9.DNA	551	GGGTACAAAA	AGATGTACGA	AATAAGCAAA	TAAGCTGTCA	TTCGTTAGA.	600